


POLICY:

- All medications will be administered and documented as outlined in system policy.
- Concentrations and packaging of medications may change depending on availability; adjust volume administered to ensure proper dosing.
- IV/IO bolus should be administered over 10 seconds.
- Slow IV push should be administered over 1 – 2 minutes.

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Acetaminophen 500 mg <i>tablets</i>	1 gram (2 tablets)	N/A	PO	Temperature	Sepsis Syndrome Pain Management- minor or adjunctive	Known liver disease Impaired swallowing
Acetaminophen <i>liquid</i> 160 mg in 5 mL	1 gram liquid preparation	10 to 15 mg/kg Max of 1,000 mg	PO	Temperature	Sepsis Syndrome Pain Management- minor or adjunctive	Known liver disease Impaired swallowing
Adenosine 12 mg in 4 mL	12 mg	1 st dose – 0.1 mg/kg 2 nd dose – 0.2 mg/kg Max dose 12 mg	Rapid IV, IO (most proximal preferred)	Continuous ECG Attempt to record conversion	Narrow complex tachycardia	Heart block Heart transplant Resuscitated cardiac arrest
Albuterol / Ipratropium 2.5 mg albuterol AND 0.5 mg ipratropium in 3 ml	5 mg albuterol / 1 mg ipratropium	2.5 mg albuterol / 0.5 mg ipratropium	Nebulized	Heart rate Change in respiratory status Age over 60 and cardiac History: ECG monitoring during administration	Respiratory distress Bronchospasm	Heart rate > 180

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Amiodarone 150 mg in 3 mL <i>Cardiac Arrest ONLY</i>	300 mg; 150 mg for second dose	5 mg/kg for first dose, max of 300 mg; 5 mg/kg for second dose, max of 150 mg	IV, IO bolus	ECG changes Blood pressure	Cardiac arrest	2nd or 3rd degree AV block Bradycardia
Amiodarone 150 mg in 3 mL <i>Wide, irregular polymorphic tachycardia ONLY</i>	150 mg	Medical control consultation	Dilute in D5W IV, IO Infusion over 10 minutes	ECG changes Blood pressure	Wide, irregular polymorphic tachycardia	2nd or 3rd degree AV block Bradycardia Pregnancy
Aspirin 81 mg Chewable tablet	324 mg (4 tablets)	N/A	PO		Angina / acute coronary syndrome	Allergy
Atropine 1mg in 10 mL <i>Bradycardia</i>	0.5 mg	0.02 mg/kg Minimum dose 0.1 mg Max single dose 0.5 mg	IV or IO bolus	Heart rate Blood pressure ECG changes	Bradycardia	Tachycardia
Atropine 1mg in 10 mL <i>Anticholinergic Toxidrome</i>	2 mg	0.5 mg/kg Max single dose 2 mg	IV or IO bolus	Heart rate Blood pressure ECG changes	Anticholinergic toxidrome	
Calcium Gluconate 1g in 10 mL	3 g	60 mg/kg Max dose 3 g	IV or IO slow push	ECG changes Watch carefully for infiltration Bradycardia	Hyperkalemia	

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Dexamethasone 20 mg in 5 mL	0.5 mg/kg Max dose 16 mg	0.5 mg/kg Max dose 16 mg	PO, IM, IV / IO slow push over 3-5 minutes	Pelvic itching	Croup Bronchospasm Allergic Reaction	
Dextrose 5% in Water 100 mL bag	Used to dilute amiodarone	Used to dilute amiodarone	IV, IO Diluent for amiodarone			
Dextrose 10% in Water 250 mL bag	100 mL	4 mL/kg Max 100 mL	IV or IO bolus	Changes in level of consciousness Repeat blood glucose Watch carefully for infiltration	Hypoglycemia	
Diphenhydramine 50 mg in 1 mL	25 mg	1 mg/kg Max dose 25 mg	IV or IO slow push IM	Changes in level of consciousness	Anaphylaxis	
Epinephrine 1:1000 -- 1 mg in 1 mL ANAPHYLAXIS	0.3 mg or adult auto injector	0.15 mg (less than 30 kg) or pediatric auto injector	IM, or auto injector (Vastus lateralis preferred site)		Anaphylaxis	No absolute contraindications in a life-threatening situation
Epinephrine 1:1000 -- 1 mg in 1 mL NEBULIZED	5 mg	2.5 mg (two point five mg)	Nebulized		Severe bronchiolitis Moderate croup Anaphylaxis	Caution with heart rate over 180
Epinephrine 1:10,000 -- 1 mg in 10 mL CARDIAC ARREST	1 mg	0.01 mg/kg Max dose 1 mg	IV or IO bolus		Cardiac arrest	

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Fentanyl 100 mcg in 2 mL	0.5 - 1 mcg/kg Max single dose 100 mcg Max cumulative dose 300 mcg	0.5 – 1mcg/kg Max single dose 100 mcg Max cumulative dose 300 mcg	IV or IO slow push, IM, IN	Change in pain level Changes in respiratory rate and effort Capnography	Pain management	Respiratory depression Refractory hypotension
Glucagon 1 mg with 1 mL diluting solution	1 mg	0.5 mg if <20 kg; otherwise 1 mg	IM/IN	Level of consciousness Repeat blood glucose Vomiting	Hypoglycemia Anaphylaxis	
Glucose Gel 15g tube (oral)	15g PO q 5 mins x 3 doses PRN	1 gm/kg PO Max 15 gm/dose q 5 mins x 3 doses PRN	PO	Level of consciousness	Hypoglycemia	Lack of gag reflex
Hydroxocobalamin (CYANOKIT®)	5 g IV/IO drip	70 mg/kg Max dose 5 g	Reconstitute with 200 mL NS or D5W IV, IO infusion over 15 minutes	Blood pressure Nausea Headache Site reactions Rash	Suspected cyanide poisoning; enclosed smoke inhalation with unstable vital signs	Not routinely used during resuscitation until ROSC is obtained



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Ketamine 500 mg in 5 mL IV/IO ROUTE ONLY <i>Patient Restraint</i>	1 mg/kg; max dose 100 mg	1 mg/kg; max dose 100 mg	IV, IO-Dilute 1ml of ketamine in 9 ml of NS = concentration of 10 mg/ml	Heart rate, Blood pressure Level of consciousness / hallucinations Capnography	Excited delirium; Immediate threat of harm to self or others	
Ketamine 500 mg in 5 mL IM ROUTE ONLY <i>Patient Restraint</i>	3 mg/kg Max dose 300 mg	3 mg/kg Max dose 300 mg	IM Do not dilute	Heart rate, blood pressure Level of consciousness / hallucinations Capnography	Excited delirium; Immediate threat of harm to self or others	
Ketamine 500 mg in 5 mL IV/IO Route <i>Post Airway Sedation</i>	0.3 mg/kg	0.3 mg/kg	IV/IO - Dilute 1ml of ketamine in 9 ml of NS = concentration of 10 mg/ml	Heart rate, Blood pressure Level of consciousness / hallucinations Capnography	Sedation following airway placement	
Ketamine 500 mg in 5 mL IV/IO ROUTE ONLY <i>Pain control</i>	0.1 mg/kg Use dosage chart on Pain protocol for ease of dosing.	0.1 mg/kg Use dosage chart on Pain protocol for ease of dosing.	IV/IO - Dilute 1ml of ketamine in 9 ml of NS = concentration of 10 mg/ml	Heart rate, Blood pressure Level of consciousness / hallucinations Capnography	Pain Management	
Ketamine 500 mg in 5 mL IM ROUTE ONLY <i>Pain control</i>	0.3 mg/kg Use dosage chart on Pain protocol for ease of dosing.	0.3 mg/kg Use dosage chart on Pain protocol for ease of dosing.	IM - Dilute 1ml of ketamine in 9 ml of NS = concentration of 10 mg/ml	Heart rate, Blood pressure Level of consciousness / hallucinations Capnography	Pain Management	



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Ketorolac 30 mg in 1 mL	0.5 mg/kg IV/IO Max of 10 mg 1 mg/kg IM Max 60 mg	0.5 mg/kg IV/IO Max of 10 mg 1 mg/kg IM Max 60 mg Do not use for patients less than age 2	IV, IO, IM	Pain scale	Pain Management- minor or adjunctive	Other NSAID use within 6 hours Anticoagulation use GI bleed Known pregnancy Major bleeding
Lidocaine 100 mg in 5 mL	1 mg/kg Max dose 40 mg	1mg/kg Max dose 40 mg	IO slow push		Pain management for IO admin in conscious patient	Heart block Junctional arrhythmia Brady arrhythmia
Midazolam 5 mg in 5 mL SEIZURE IV/IO/IN/PR	> 40 kg 4 mg	< 40 kg 0.1 mg/kg Max 2 mg	IV, IO bolus	Changes in respiratory rate, effort, consciousness and seizure activity. Capnography	Seizure	Hypotension
Midazolam 5 mg in 5 mL SEIZURE IM	>40 kg 10 mg	<40 kg 0.25 mg/kg Max 5 mg	IM	Changes in respiratory rate, effort, consciousness and seizure activity. Capnography	Seizure	Hypotension
Midazolam 5 mg in 5 mL CHEMICAL RESTRAINT	1 to 2 mg	0.25 mg/kg Max 2 mg	IV, IM, IN	Changes in respiratory rate, effort, consciousness. Capnography	Patient Restraint Excited Delirium	
Midazolam 5 mg in 5 mL Sedation post airway placement	0.1 mg/kg Max 2 mg	0.1 mg/kg Max 2 mg	IV, IO	Capnography	Sedation post airway placement	

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Naloxone 2 mg in 2 mL	0.5 mg	0.1 mg/kg Max single dose 0.5 mg	IV, IO, IM, IN	Changes in respiratory rate, effort, consciousness. Capnography	Narcotic overdose	
Nitroglycerin Metered spray canister – 0.4 mg/spray	0.4 mg to 1.2 mg per protocol	N/A	SL	Blood pressure prior to and after administration	Acute coronary syndrome CHF	SBP < 100 mm/hg Inferior STEMI Phosphodiesterase inhibitor within last 72 hours
Norepinephrine	Goal: MAP >65 mmHg Range: 8 to 12 mcg/min; start at 8 mcg/min and titrate 2 mcg/min every 5 mins to a max of 12 mcg/min. 8 mcg/min= 30 gtts/min; 10 mcg/min= 40 gtts/min; 12 mcg/min= 50 gtts/min	*OLMC required for pediatric Goal: Age appropriate normal systolic BP Range: 0.1 to 1 mcg/kg/min titrated every 5 mins to a max of 1 mcg/kg/min Dosing per weight for <40kg See NE drip chart at bottom of document.	IV/IO Mix 4 mg/4mL vial into 250cc bag of D5W or NS; deliver using micro drip tubing set (60 gtts/min/mL)		Non-hypovolemic shock refractory to fluid bolus.	Hypovolemic shock

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Normal Saline 1000 mL, 500mL, 250mL bags	20 to 30 mL/kg based on specific protocol May repeat titrated to SBP >90 mm/Hg	20 mL/kg May repeat titrated to age appropriate SBP	Fluid bolus should be delivered in a pressure bag over 10 minutes	Respiratory distress	Shock states	Signs of heart failure
Ondansetron 4 mg oral dissolving tablets	8 mg	15 – 30 kg: 4 mg	PO (dissolving tablet)	Headache Dizziness	Nausea/ vomiting	Prolonged QT complex: Male: greater than 450 ms Female: greater than 470 ms
Ondansetron 2 mg/mL	0.1 mg/kg Max 4 mg	0.1 mg/kg Max 4 mg	IV, IO slow push	Headache Dizziness	Nausea/ vomiting	Prolonged QT complex: Male: greater than 450 ms Female: greater than 470 ms
Sodium Bicarbonate 50 mEq in 50 mL	50 mEq	1 mEq/kg Max 50 mEq	IV, IO bolus		As directed by OLMC	Do not mix with epinephrine or calcium gluconate.

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Norepinephrine Drip Rate Chart – based on standard premixed solution of 4 mg/250 mL of NS or D5W, using micro drip tubing (60 gtts/min/mL)

Patient weight ≥ 40 kg (Not a weight based dose)

Start at 8mcg/minute and increase every 3 to 5 minutes with a max of 12mcg/minute.

Titrate to SBP of 90 mm/Hg

Dose (mcg/min)	8	10	12	
Drip rate (per minute)	30	40	50	Drips per minute

Patient weight <40kg (Weight based dosing; higher dosing than adults due to large volume of distribution in pediatrics)

****Medical Control needed prior to initiation of pediatric (<40 kg) norepinephrine****

Start at 0.1 mcg/kg/minute and increase every 3 to 5 minutes with a max of 1mcg/kg/minute

Titrate to age appropriate systolic blood pressure max of 90 mm/Hg

Weight kg		5	10	15	20	25	30	35	
Dose	0.1 mcg/kg/min	2	4	6	8	10	11	13	Drips per minute
Dose	0.5 mcg/kg/min	9	19	28	38	47	56	66	Drips per minute
Dose	1 mcg/kg/min	19	38	56	75	94	112	131	Drips per minute